

ABSTRACT OF THE DISCLOSURE

A multi-wavelength light amplifier includes a first-stage light amplifier which has a first light amplifying optical fiber amplifying a light input, a second-stage light amplifier which has a second light amplifying optical fiber amplifying a first light output from the first-stage light amplifier, and an optical system which maintains a second light output of the second-stage light amplifier at a constant power level. The first-stage and second-stage light amplifiers have different gain vs wavelength characteristics so that the multi-wavelength light amplifier has no wavelength-dependence of a gain thereof.